

*An integrated unit  
focusing on the  
management  
decisions regarding  
one of Arizona's  
major predators*

# Mountain Lions in Arizona

## ***Lesson 5: Humans and Lions – Encounters in Nature***

### **LESSON OVERVIEW**

Students will learn how to recognize when a mountain lion is preparing to attack and will identify proper actions to provide the greatest chance of survival if they are attacked. They will play a matching card game in which they must match the mountain lion's behavior with the relative risk and the recommended human action.

### **SUGGESTED GRADE LEVELS**

- 6 – 12

### **ENDURING UNDERSTANDINGS**

- Human activities can affect the potential for hazards.

### **OBJECTIVE**

Students will:

- Analyze animal behavior to assess risks they might encounter.

### **ARIZONA DEPARTMENT OF EDUCATION STANDARDS**

Grade	Science	Social Studies
6	S1-C3-02; S1-C4-03	None
7	S1-C3-02; S1-C4-04; S3-C1-01	None
8	S1-C3-02; S3-C1-01; S3-C1-02	None
High School	S3-C1-03	None

*Note: The full text of these standards can be found in Appendix A.*

### **TIME FRAME**

- 1 day (45 minutes)

### **MATERIALS**

- *Mountain Lion Behavior Risk Cards* (1 set per group)
- Paper or poster board (1 per group)
- Markers or colored pencils

### **TEACHER PREPARATION**

- Make copies of the complete set of *Mountain Lion Behavior Risk Cards* for each group of three to four students.
- To make reusable cards, laminate the sheets or attach to cardstock.
- Cut out the cards.



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## **SUGGESTED PROCEDURES**

1. Ask students, "What do you think would be the proper action to take if you encountered a mountain lion in the wild?" They can answer in the form of a journal entry or a class brainstorming session. Select several ideas to discuss as a class. Explain that their ideas are good, but now it is time to compare their ideas with those of scientists who have used verifiable data to determine when mountain lions pose a risk and what we should do to gain the greatest chance of survival.
2. Divide the class into groups of three or four.
3. Explain that each group is going to play a matching game. They will use a set of cards, each containing four topics: mountain lion action, the meaning of the lion's action, the risk to humans, and the appropriate behavior a person should take to survive. They are to deal out the cards and then lay them down one at a time, matching up the four categories until all of the cards have been matched. Then, working together, they must place the cards in order from least risk to most risk.
4. Allow the groups to proceed. Check answers periodically, pointing out problems with their answers, if necessary.
5. When all groups have finished or managed what they can, review the correct answers. Ask students, "Why do you think it is never an appropriate response to run from a lion?" Discuss student responses. If they do not arrive at the conclusion on their own, guide them to the fact that the mountain lion is a predatory animal that chases its prey. When a lion sees another creature running, the lion will often believe it to be prey and chase it.
6. Collect the cards from the students.
7. Group task: Inform the students that they have been hired by the U.S. Forest Service to create an informational flyer that will be handed out to hikers and bicyclists. Each group will design a flyer that clearly outlines the proper procedures people should follow if they encounter a mountain lion. Graphics and pictures may be used, but the directions must be easy to understand.

## **ASSESSMENT**

- Safety flyer
- Class discussion

## **EXTENSIONS**

- Contact local parks and wildlife agencies to see what educational materials they have on mountain lion safety. Request a copy. Allow your students to compare the official materials to their own.
- Students can contact local parks that may not have educational materials on mountain lion safety to see if they would be interested in using those created by the students.
- Encourage your students to participate in the *Hot Topics Campfire Chat* with their parents at home.



## ***Appendix A: Arizona Department of Education Standards – Full Text***

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### **Science Standards**

<b>Grade</b>	<b>Strand</b>	<b>Concept</b>	<b>Performance Objective</b>
6	1	3 – Analysis and Conclusions	2 – Form a logical argument about a correlation between variables or sequence of events
		4 – Communication	3 – Create a list of instructions that others can follow in carrying out a procedure (without the use of personal pronouns)
7	1	3 – Analysis and Conclusions	2 – Form a logical argument about a correlation between variables or sequence of events
		4 – Communication	4- Write clear, step-by-step instructions for following procedures (without the use of personal pronouns)
	3	1 – Changes in Environments	1 – Analyze environmental risks caused by human interaction with biological or geological systems
8	1	3 – Analysis and Conclusions	2 – Form a logical argument about a correlation between variables or sequence of events
	3	1 – Changes in Environments	1 – Analyze the risk factors associated with natural, human induced, and/or biological hazards 2 – Analyze possible solutions to address the environmental risks associated with chemicals and biological systems
High School	3	1 – Changes in Environments	3 – Assess how human activities can affect the potential for hazards



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## ***Appendix B: Worksheets and Overheads***

The pages that follow contain the worksheets listed below:

- A. *Mountain Lion Behavior Risk Cards* – A matching game that the students can play to understand mountain lion threats. (2 pages)



# Mountain Lion Behavior Risk Cards

Information provided by Defenses Against Cougars by E. Lee Fitzhugh at <http://users.frii.com/mytymyk/lions/pumadfn.htm>.

<p><b>MOUNTAIN LION ACTION</b> Far away and moving even farther away</p>	<p><b>MEANING</b> Secretive Trying to avoid contact</p>	<p><b>HUMAN RISK</b> Insignificant</p>	<p><b>APPROPRIATE RESPONSE</b> Keep children where they can be observed.</p>
<p><b>MOUNTAIN LION ACTION</b> More than 100 yards away with attention directed away from people</p>	<p><b>MEANING</b> Indifferent</p>	<p><b>HUMAN RISK</b> Slight, if human response is appropriate</p>	<p><b>APPROPRIATE RESPONSE</b> Avoid rapid movements, running, and loud noise. Keep close eye on children. Watch mountain lion.</p>
<p><b>MOUNTAIN LION ACTION</b> More than 50 yards away; Seems to be following or focusing intently on people; Ears may be up.</p>	<p><b>MEANING</b> Curiosity</p>	<p><b>HUMAN RISK</b> Slight for adults, if human response is appropriate; Serious for unattended children</p>	<p><b>APPROPRIATE RESPONSE</b> Hold children and do not turn your back. Try to stand higher than mountain lion. Look for rocks and sticks and pick them up without bending over. Watch mountain lion at all times.</p>

<p><b>MOUNTAIN LION ACTION</b> Closer than 50 yards and trying to hide; Seems to be focused on people.</p>	<p><b>MEANING</b> Assessing the success of an attack</p>	<p><b>HUMAN RISK</b> Substantial</p>	<p><b>APPROPRIATE RESPONSE</b> Hold children and place them behind adults. Do not run. Prepare to defend yourself. Raise hands or jackets to look larger. Pick up rocks and sticks without bending over and throw them at the lion.</p>
<p><b>MOUNTAIN LION ACTION</b> Hiding while creeping close; Staring at people.</p>	<p><b>MEANING</b> Moving into attack position</p>	<p><b>HUMAN RISK</b> Serious, if within 200 yards</p>	<p><b>APPROPRIATE RESPONSE</b> Hold children and place them behind adults. Try to place large objects like boulders and trees between yourself and the lion. Show your teeth. Make loud noises. Pick up rocks and sticks without bending over and throw them at the lion.</p>
<p><b>MOUNTAIN LION ACTION</b> Crouching low to ground with tail twitching and ears up; Staring intently at people.</p>	<p><b>MEANING</b> Awaiting the opportunity to attack</p>	<p><b>HUMAN RISK</b> Grave</p>	<p><b>APPROPRIATE RESPONSE</b> Hold children and place large objects between yourself and the lion. Pick up rocks and sticks without bending over and throw them at the lion. Use pepper spray if close enough and downwind.</p>
<p><b>MOUNTAIN LION ACTION</b> Head and body low to ground with tail twitching and ears turned "fur" side forward; Rear legs may be "pumping" or "treading" the ground.</p>	<p><b>MEANING</b> Imminent attack</p>	<p><b>HUMAN RISK</b> Extreme</p>	<p><b>APPROPRIATE RESPONSE</b> Make loud noises. Prepare to defend yourself by fighting back if attacked. Act aggressive, even running toward the lion while throwing rocks and sticks. Stop before you are within striking distance of the paws. Do not turn your back on the lion.</p>